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Timber Operator's Manual.



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TIMBER OPERATOR'S MANUAL



• DEPARTMENT OF



LANDS & FORESTS



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TIMBER OPERATORS' HANDBOOK

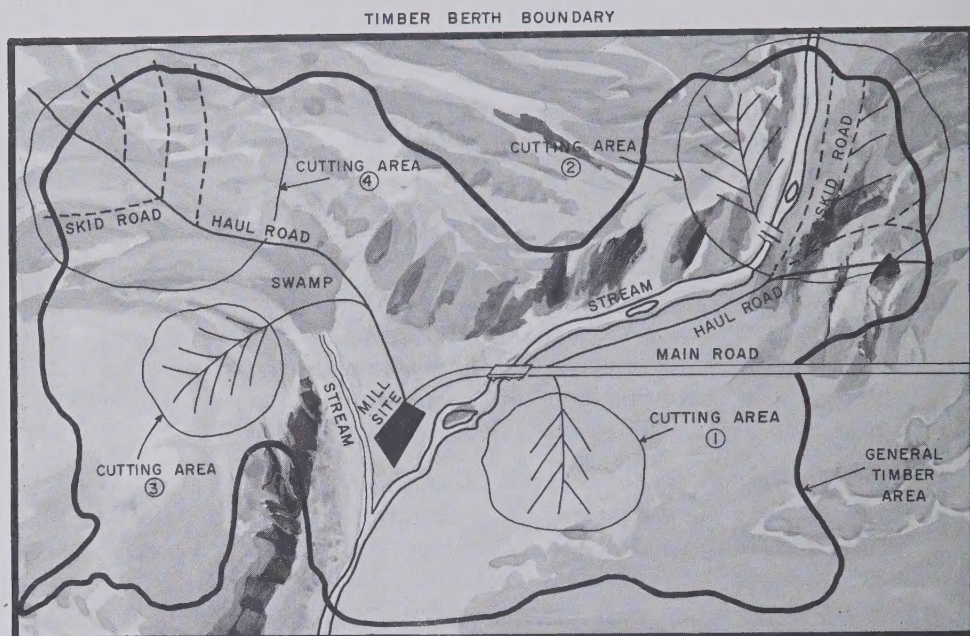
FOREWORD

This booklet is published under the direction of the Alberta Department of Lands and Forests, the Minister and the Director of Forestry. It is being issued in the interest of good forest management, forest protection and profitable enterprise among the timber industries of Alberta.

The suggestions contained on following pages are, by no means, a complete dossier of good and harmful woods habits. They represent some of the more important features of timber harvesting operations and their study is recommended to secure a minimum of malpractise. Both the operator and the woodsman will find something of interest in the booklet.

Suggestions for this publication originated with Forest Officer C. E. Enwright of the Clearwater Forest. Mr. Enwright's original submission won for him an award in the Alberta Government's Suggestion Award Competition.

Location of the Mill Service Roads and Cutting Areas



Wherever feasible locate a mill site centrally within the productive area of the timber berth to limit log hauling distances and to protect young growth in all regions equally from excessive hauling and skidding abuse. Locate and construct a good entrance roadway from municipal road to millsite. Locate haul roads to short and long haul cutting areas in such a way that these regions can be serviced jointly. For example the combination of hauling from cutting areas 1 and 2 during a single phase of operations will balance wood extraction costs. Locate haul roads sufficient distance from water courses to protect cover requirements for these critical areas.

A neat, well planned mill and cutting layout promotes better forest management, provides adequate forest protection and profits the operator.

Log Skidding By Tractor



NOT THIS

During skidding operations every effort should be made to limit damage to undercover and young growth trees to a minimum. The dozer blade should be removed from crawler tractors during skidding work because it projects beyond the normal width of the machine. Logs should be chained up close to rear of machine to prevent butts from striking residue growth and breaking or damaging it. Skid trails should be planned and selected with an eye to the machinery being used and the size of logs being dragged.

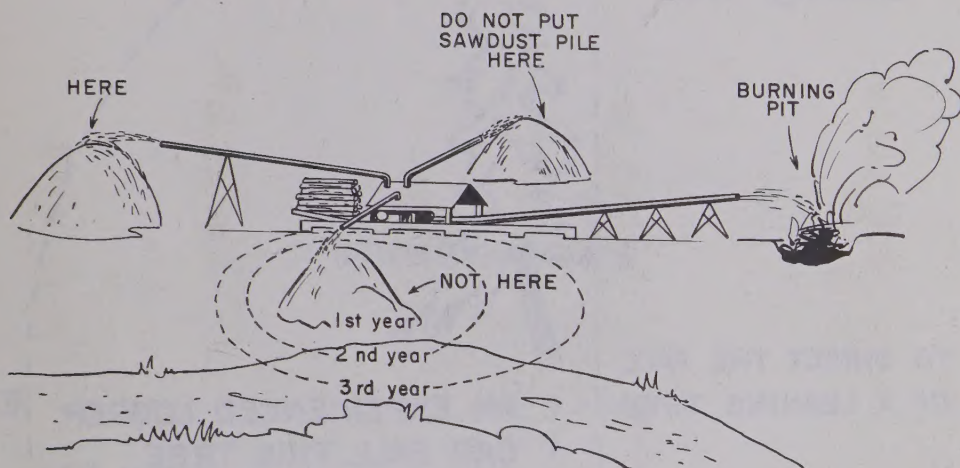
Skidways



Small openings should be used for locating skidways to avoid unnecessary clearing. When some clearing is necessary avoid pushing windrows of brush into standing timber at sides and back of skidway as this creates a fire hazard and must be removed anyway before the operation leaves the berth.

To reduce logging costs use only non-merchantable timber to construct skidways. Sound logs, when used, must be picked up and included in timber volume records.

Location of Sawdust Pile



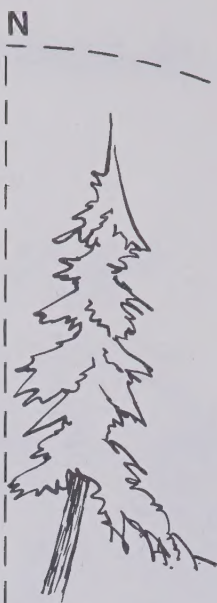
Always direct sawdust from the lumber mill to a location as far away as possible from the slab burning pit. Forestry regulations limit the distance between them to a minimum of 75 feet.

In planning sawdust piling, keep in mind the extent of the berth's timber volume, so that sufficient space is provided for the full period of mill operation.

Further precaution must be taken on behalf of lakes and streams when planning sawdust dispersal at the mill site. Piles must be located well away from any watercourse or shore line to prevent pollution of natural waters. A minimum distance of 300 feet is recommended between sawdust and slab piles and the nearest water body or any gully through which water flows, even intermittently.

Felling A Leaning Tree

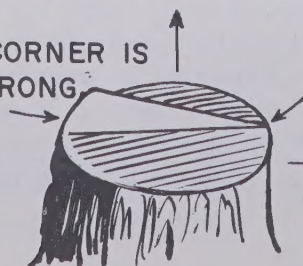
TO DIRECT THE FALL
OF A LEANING TREE



AN EXPERIENCED LOGGER
CAN FALL THIS TREE
ANYWHERE WITHIN
THE ARC.

TO FALL THIS DIRECTION

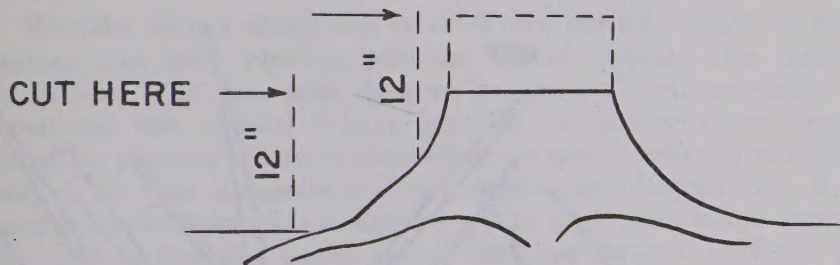
UNCUT CORNER IS
LEFT STRONG



NOTCH AND BACKCUT
MEET HERE

TREE IS LEANING
THIS WAY

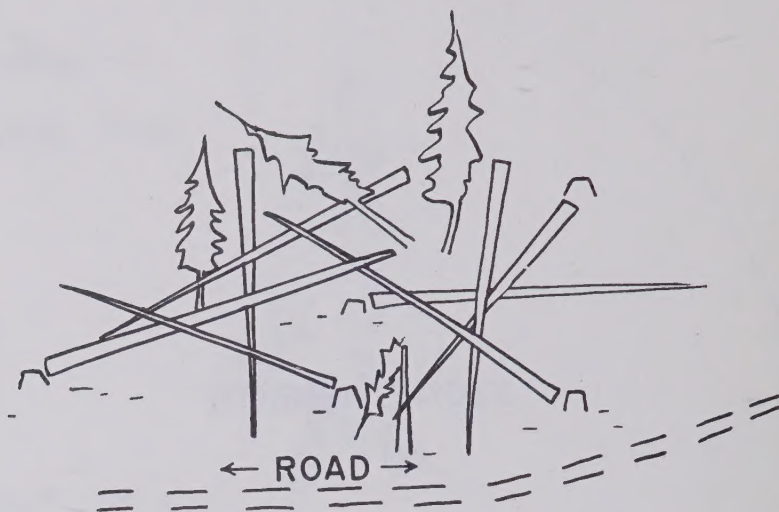
STUMP HEIGHTS



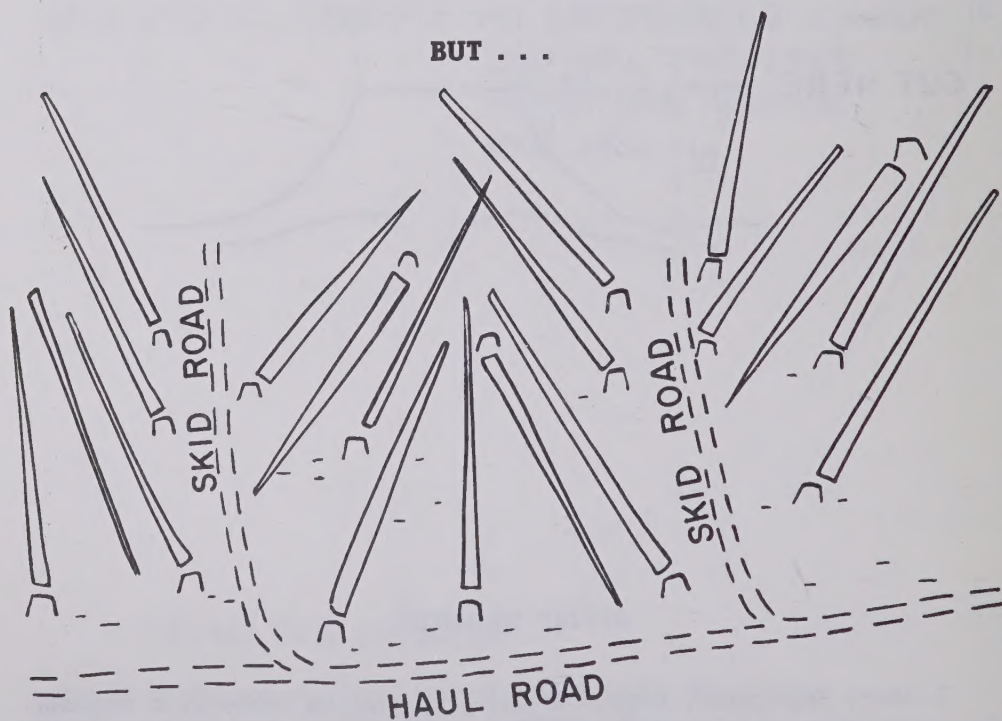
STUMP HEIGHTS

Forestry regulations require that felling cuts be made at a distance not greater than 12 inches from the ground. This ruling may not be applied loosely to mean a measurement made from an exposed tree root near the ground. It means exactly what it says, 12 inches from the level of the surrounding earth. The intent of the regulation is self evident, high stumps in the bush mean less boards on the mill pile. (Section 71(1) The Forest Act)

NOT THIS



BUT . . .

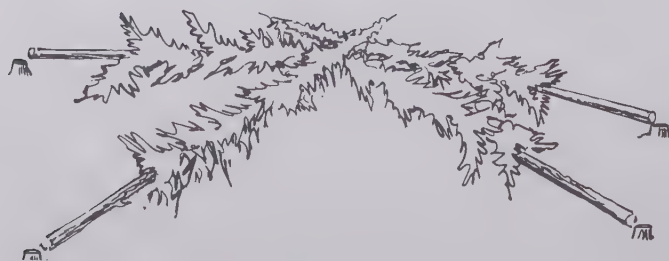


THIS!

Tree Felling Pattern

Efficient felling along the lines of the pattern shown in the lower diagram, (see left), together with the use of planned skid roads and a central haul road, (see also diagram on page 2), will minimize damage to residual tree stands, (young growth). A further direct economy is effected by planned felling in preventing awkward skidding patterns which result in lost time, excessive fuel consumption and broken logs. A common felling pattern (shown upper left) results in high costs to the operator and a lower yield from the timber stands both mature and residual.

Avoid Felling Errors



Avoid Felling Errors

1. Size up tree stands before beginning felling to avoid costly situations shown in upper left diagram. "Teepees", as they are called, are dangerous to separate, often requiring additional cutting and a waste of time and timber.
2. Do not fell trees so tops over-lap into brush pile (see lower left). This error often results in tops of upper trees being only partly lopped while those at the bottom of the pile remain untouched until skidding provides access to them. The net result is a time consuming second lopping job.

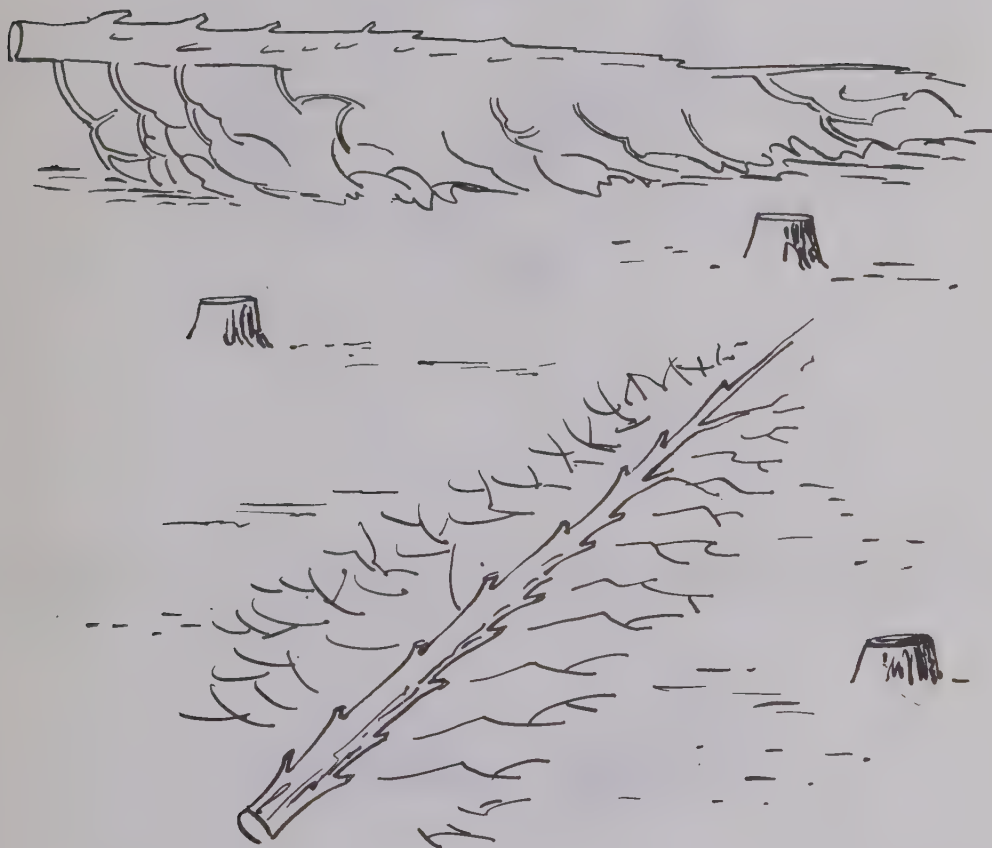
Protect Young Growth



In addition to proper planning for skidding and hauling on behalf of the residual tree stand, good felling practises can do much to prevent further damage. Wherever possible use bare forest clearings in which to drop trees. If this is not possible, try to direct tree fall so as to give the greatest protection to young growth of important merchantable species (usually spruce and pine).

Lopping

WRONG!

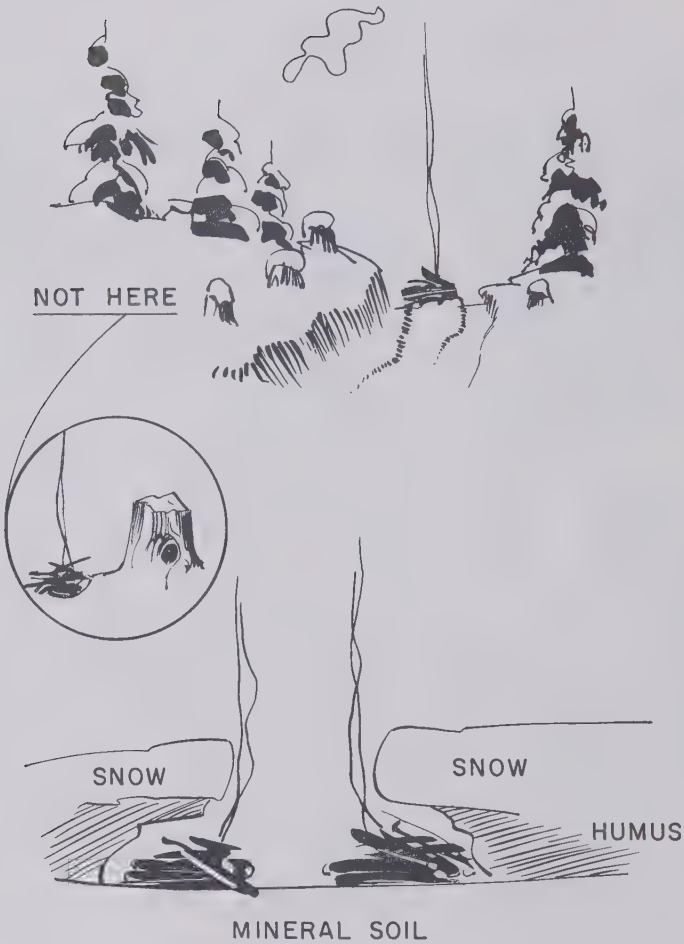


RIGHT!

All branch lopping should be a complete job with material scattered to permit maximum contact with the ground (see lower diagram above). The ground contact permits litter to draw and hold ground moisture, allowing rot to get under way and significantly shorten the period during which logging slash presents a fire hazard.

Incomplete lopping and piling as shown in the upper diagram can present a fire threat to the forest for many years thereafter.

Dinner Fires



NOT THIS

Build dinner fires on areas of exposed mineral soil, e.g. roadways. Even in winter when a snow mantle appears to make the danger of fire negligible, a small camp fire will attack humus and rotting trash under the snow and often remain ignited for long periods. Muskeg areas are particularly dangerous; smouldering winter camp fires have been known to spread under snow for months, only to flare up and produce a major fire when spring comes and snow is removed.

Be careful with fire in the forest at all times.

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